STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2069-AOP-R0 AFIN: 25-00028

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

IESI-AR Landfill Corp. d/b/a Cherokee Sanitary Landfill
300 Landfill Road
Cherokee Village, Arkansas 72529

3. PERMIT WRITER:

Andrea Sandage

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Municipal Solid Waste Landfill
NAICS Code: 562212

5. SUBMITTALS:

8/27/2010 11/15/2010 12/22/2010 1/26/2011

6. REVIEWER'S NOTES:

Cherokee Sanitary Landfill (CLF) is currently owned and operated by IESI AR Landfill Corporation. CLF operates a Class I and IV Municipal Solid Waste Landfill (MSWLF) located in Cherokee Village, Arkansas. The site consists of a Class I permitted area of approximately 126.78 acres and a Class IV permitted area of approximately 20 acres. This facility, which previously operated under a Minor Source air permit (2069-AR-1), is required to obtain a Title V Operating Air Permit under the provisions of 40 CFR Part 60 Subpart WWW – *Standards of Performance for Municipal Solid Waste Landfills* due to the Landfill design capacity. Pursuant to 40 CFR 60, Subpart WWW the landfill is required to submit Part 70 (Title V) permit application when the landfill design capacity is greater than 2.5 million megagrams by mass or 2.5 million cubic meters by volume.

There is no increase in the design capacity of the landfill with this new Title 5 permit. Permitted emissions are: 34.5 tpy PM, 9.4 tpy PM_{10}, 0.8 tpy SO_2, 14.5 tpy VOC, 24.6 tpy

CO, 4.6 tpy NO_x, 0.39 tpy Hydrogen Chloride, numerous HAPs, and 1.02 tpy Hydrogen Sulfide.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

None

8. PSD APPLICABILITY:

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
b. Is the facility categorized as a major source for PSD? N

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	VOC (NMOC)	NSPS Subpart WWW

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING: 2005 - 2009 MET data – modeled 5 year

Criteria Pollutants - PM_{10} - 24-hr 6th high

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Modeled Concentration ($\mu g/m^3$)	Background Values LR 2009 ($\mu g/m^3$)	Total Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM_{10}	4.7*	150	24-Hour	71.6	36	107.6	71.7

* Includes SN-01 (flare) @ 0.3 lb/hr & SN-03 (un-paved roads) @ 4.4 lb/hr

Non-Criteria Pollutants:

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value

(mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
1,1,2,2-Tetrachloroethane	6.86544	0.755198	0.0353	Y
1,1-Dichloroethane (ethylidene dichloride)	404.7853	44.52638	0.0441	Y
Acrylonitrile	4.339468	0.477342	0.0637	Y
Dichloromethane	173.681	19.10491	0.2302	Y
Toluene	75.36196	8.289816	0.6864	Y
Vinyl chloride	2.556237	0.281186	0.0870	Y
Xylenes	434.1922	47.76115	0.2435	Y
Hydrochloric Acid (HCl)	2.984	0.328	0.0889	Y

H_2S Modeling: 2005 - 2009 MET data –2nd high

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H_2S Standards - N

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H_2S	20 parts per million (5-minute average*)	23.66 ppb or 0.0237 ppm	Y
	80 parts per billion (8-hour average) residential area	13.651 $\mu g/m^3$ = 9.79 ppb	Y
	100 parts per billion (8-hour average) nonresidential area	13.651 $\mu g/m^3$ = 9.79 ppb	Y

Includes SN-01 @ 0.0019 lb/hr & SN-02 @ 0.2294 lb/hr = 0.2313 lb/hr H_2S

*To determine the 5-minute average use the following equation

$Cp = Cm\ (t_m/t_p)^{0.2}$ where

Cp = 5-minute average concentration
Cm = 1-hour average concentration (20.049 $\mu g/m^3$ = 14.39 ppb)
t_m = 60 minutes
t_p = 5 minutes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 Flare	PM – AP-42 Table 2.4-5 footnote a (11/98) SO_2 – AP-42 2.4.4.2 NMOC – Tier II testing CO & NO_X – AP-42 13.5-1 HCl – AP-42 2.4.2.2 HAPs – AP-42 2.4.3	PM = 17 lb/10-6 dscf Methane (0.0010 lb/hr/dscfm) SO_2 = 46.9 ppmv Reduced S NMOC = 159 ppmv CO = 0.370 lb/MMBtu NO_X = 0.068 lb/MMBtu C_{Cl} = 42.0 ppmv Varies , see Table 2.4-1	Flares	NMOC – 98% HAPs - 98.0%	Open candlestick flare 500 scfm @8760 hr/yr @1012 BTU/scf Methane @50% Methane Concentration for PM, SO_2 & NO_X NMOC = 100% VOC
02	LandGEM 3.02	Peak LFG Generation Rate = 1,199 scfm	None	n/a	100% of LFG is emitted uncontrolled over the landfill surface.
03	Unpaved Roads – AP-42, 13.2.2	Silt content s = 3.9% P=110	Water suppression	75 %	Silt Content for Arkansas – AP 42 Section 13.2.2

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	Tables 13.2.2-1,-2,-3	PM = 4.225 lb/VMT PM10 = 1.033 lb/VMT	as necessary		Related Information 12 hr/day – 312 days/yr

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01	NMOC (VOC Surface emissions)	Tier 2	If NMOC is less than or equal to 50 Mg/yr (54.1 tpy), test every 5 years	NSPS Subpart WWW

14. MONITORING OR CEMS

This facility has no CEMS or other monitoring equipment for air emissions.

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Facility	Total in-place Municipal Solid Waste	8,578,341 CY design capacity (Tons accepted converted to CY)	Annual	N
Facility	LandGEM calculated emissions	1,199 scfm	Annual	N
Facility	Plot Map of collector system	None	On-going	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Facility	Asbestos-containing or non-degradable waste: nature, date, quantity received & location	None	On-going	N
1	Maintenance Log	Maintain Good Operating Practices Maintain records	Monthly	N
1	scfm	Varies with OSs	Every 15 minutes	Yes
02	NMOC SN-02	50 Mg/yr	Annually	Yes

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01	0%	§18.501, §60.18(f)(1) and A.C.A.	Weekly Observation
03 and Off-site	5%	Reg. #18.501 & A.C.A.	Observation & Dust Suppression methods, NPDES permit required.

17. DELETED CONDITIONS:

There are no deleted conditions.

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
13.5 HP Gas Water Pumps (2) SN-05	A1	0.0152	0.0124	0.316	0.1466	0.2316		
15 HP Gas Air Compressor SN-05	A1	0.0017	0.0014	0.0351	0.0163	0.0257		
475 Gallon Diesel Storage Tank SN-06	A3			0.00027				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
525 Gallon Diesel Storage Tank SN-06	A3			0.00054				
Solidification Emissions SN-04	A13	0.0025						

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
2069-AR-1

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Paula Parker, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-01-10

Facility Name: Cherokee Sanitary Landfill
Permit Number: 2069-AOP-R0
AFIN: 25-00028

$/ton factor	22.07	Annual Chargeable Emissions (tpy)	100
Permit Type	Initial Permit	Permit Fee $	1000

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	☑
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	331
Total Permit Fee Chargeable Emissions (tpy)	40.88
Initial Title V Permit Fee Chargeable Emissions (tpy)	56.82

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM	☑	0	34.5	34.5	34.5	34.5
PM_{10}	☐	0	9.4	9.4		
SO_2	☑	0	0.8	0.8	0.8	0.8
VOC	☑	15	14.5	-0.5	-0.5	14.5
CO	☐	0	24.6	24.6		
NO_X	☑	0	4.6	4.6	4.6	4.6
1,1,2,2-Tetrachloroethane	☐	0.14	0.16	0.02		
1,1-Dichloroethane (ethylidene dichloride)	☐	0.18	0.2	0.02		
Acrylonitrile	☐	0.252	0.3	0.048		
Dichloromethane	☑	0.94	1.01	0.07	0.07	1.01
Toluene	☐	2.77	3.01	0.24		
Vinyl chloride	☐	0.35	0.39	0.04		
Xylenes	☐	0.98	1.07	0.09		
Hydrogen Chloride (HCl)	☑	0	0.39	0.39	0.39	0.39
Hydrogen Sulfide H2S	☑	0	1.02	1.02	1.02	1.02